WHAT IS CLAIMED IS:

1. A magnet pole position detector for a rotor that has a plurality of magnets disposed on a circular periphery, and rotates with a rotation shaft, the detector comprising:

plates of the same number as the magnets, the plates being made of a magnetic material, each of the plates being disposed on the rotor at a position along a circular path nearby a corresponding magnet and magnetized by leakage flux of the corresponding magnet; and

a magnetic sensor outputting a signal in response to a variation of a magnetic flux density on the circular path.

2. The magnet pole position detector as defined in Claim 1, wherein the plates form a maximum flux density on both ends of the plates on the circular path.

3. The magnet pole position detector as defined in Claim 1, wherein the plates are fixed to an end face of the rotor, the end face facing in a direction along the rotation shaft.

4. The magnet pole position detector as defined in Claim 1, wherein an interval between adjacent plates is set to be narrower than an interval between adjacent magnets.

5. The magnet pole position detector as defined in Claim 1, wherein the rotor forms a part of an electric motor that has a stator provided with a plurality of

coils, and wherein the rotor is disposed on an inner side of the stator..

6. The magnet pole position detector as defined in Claim 1, wherein the rotor forms a part of an electric motor that has a stator provided with a plurality of coils and wherein the rotor is disposed on an outer side of the stator.

7. The magnet pole position detector as defined in Claim 1, wherein each of the plates comprises a magnetic passage transmitting magnetic flux of the corresponding magnet to the plates.

8. The magnet pole position detector as defined in Claim 1, wherein the rotor further comprises a rotor core retaining the magnets, and the plates are fixed to the rotor core.

9. The magnet pole position detector as defined in Claim 8, wherein the plates are fixed to the rotor core via an end plate made of a non-magnetic material.

10. The magnet pole position detector as defined in Claim 1, wherein each of the magnets comprises a pair of magnet components that have equal polarity.

11. The magnet pole position detector as defined in Claim 1, wherein the plates are provided in the form of a disk in which adjacent plates are separated by a radial groove formed on the disk.

add A2 add C2 add D1 add E3